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ON A NEW OPERATION FOR REMOVAL OF POSTERIOR ADHESION OF THE IRIS.

WHEN, in iritis, a single point of adhesion between the pupillary margin of the iris and the lens has been formed, there is great danger that the eye will remain ever after a damaged organ. Should the use of atropine (as is very usual) fail to destroy, while yet soft, this point of adhesion, the disease tends to go on from bad to worse, for the fixed part acts as a continual irritant, causes more or less severe relapses of the iritis, and leads to the increase of breadth of the adhesion, and to atrophic changes in the iris itself. Hence it happens that the usual result of such cases, when left to themselves, is that, finally, the pupil becomes totally adherent to the lens, the anterior capsule in and near the pupil becomes covered with the products of inflammation, and this capsulitis, interfering with the nutrition of the lens, leads to the formation of cataract, while the atrophic iris is bulged out at its periphery by the fluid in the posterior chamber, and forms a convex ring round the occluded pupil. The deeper structures of the eye usually suffer at the same time.

The treatment of adhesion between the iris and lens, posterior synechia, as it is called, is one of the least satisfactory parts of the ophthalmic practice. In iritis and corneitis, where these are so apt to be formed, the use of atropine furnishes us with a means of preventing, in many cases, this annoying occurrence; but, in spite of the most careful treatment, adhesions often happen, and constitute a germ of mischief tending continually to progress.

When the adhesions are broad and extensive, no better or surer means could be wished for than the performance of iridectomy, which radically cures the whole mischief at the expense of a slight deformity. When, on the other hand, the adhesions are few, and involve mere points of the pupillary margin, it would be greatly to be desired that we could break down synechiæ without producing deformity of the eye. The use of atropine commonly fails us entirely in such cases, and operation is the only means of attaining this end.

As a substitute for iridectomy in such cases, it has been proposed (Stellwag's *Augenheilkunde*, 1864, p. 179) to make a peripheral incision in the cornea with the usual iridectomy knife, then to introduce a peculiar flat hook, sharp at its concave side, and break down the adhesions by pushing with the convex side, or cutting them with the concave portion. It was hoped that this operation would succeed in an eye under the influence of atropine, but the proposal seems never to have found favour, and I am ignorant of what success, if any, is said to have attended it. The description of it would cause any experienced oculist to hesitate before even giving it a trial.

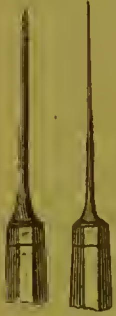
More recently (*Archiv für Ophthalmologie*, 1869, Bd. xv. Ab. I.) Dr. Passavant, in a letter to Professor von Graefe, suggests that limited adhesions of the iris to the lens should be broken down in the following manner:—The iris being under the influence of atropine, a peripheral incision, as for iridectomy, is to be made in the cornea opposite the site of the adhesion. The knife is then withdrawn, and an iris forceps is introduced, which, seizing the iris near the pupil, and at a point corresponding to the adhesion, is made to drag the iris outwards towards the wound until the adhesion is seen to rupture. The forceps is then loosed from its hold on the iris by opening the blades, and withdrawn, the operation being thus completed. Dr. Passavant usually contents himself (p. 261) with the destruction of one adhesion at a time, and operates on another after an interval of a few days. He says —"In more than fifty such operations I have not met with a single injurious result."

This paper of Dr. Passavant appeared so honestly written that a trial of his method was instituted in the next case that presented itself in the Aberdeen Hospital. In this, as in all the cases where I have tried it, the operation was followed by no bad result as regards the iris; but, though the adhesion was seen to tear, the contraction of the pupil, which invariably followed on the escape of the aqueous humour, allowed the two ends of the adhesion to lie so close to each other that they united again in spite of the free use of atropine, and by the time the corneal wound was healed, the same state of matters existed as before the operation, only the adhesion was not so broad as previously.

In both the above-mentioned operations the fault lies chiefly in their necessitating the escape of the aqueous humour, and so permitting the contraction of the pupil which follows to bring the ends of the separated adhesions so close that they reunite. They show, however, with what impunity the iris may be manipulated, and that iritis is not even a usual result of careful and well-judged interference.

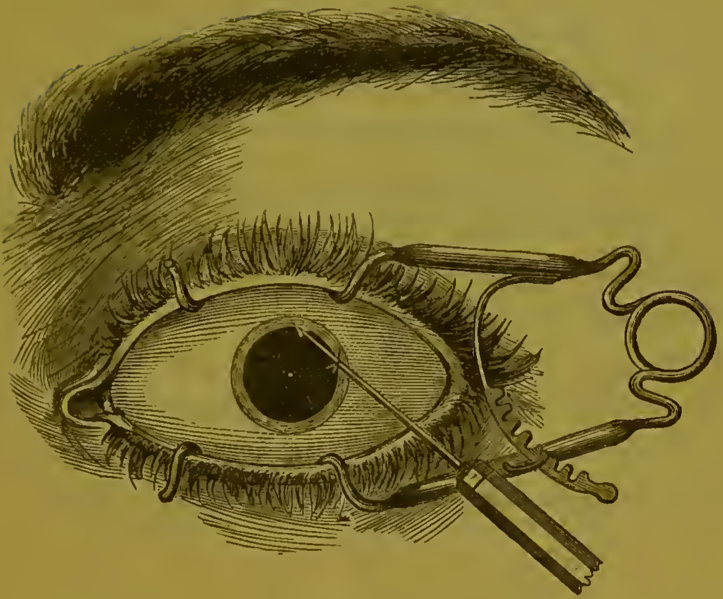
The following mode of operating on cases of limited adhesions, for which iridectomy is too severe a measure, is based upon two facts—first, that the iris is a structure sufficiently tough to resist very decidedly attempts to transfix it, and will be pushed before the point of a sharp instrument so as even to tear from its attachments rather than allow the sharp point to pass through it; and second, that if the aqueous humour be not permitted to escape, an instrument may be introduced into the anterior chamber, and the iris manipulated without causing contraction of an atropised pupil.

FIG. 1.



The pupil being put well under atropine, and the patient being under chloroform or bichloride of methylene, a spring speculum is fixed on the lids, and the operator fixes the bulbus with a pair of forceps held in the left hand. The situation of the adhesion is now well studied, and, if necessary, concentrated artificial light is employed to render it distinct. This latter, however, is necessary only with feeble daylight or opacities of the cornea. A needle (Fig. 1) is now introduced through the cornea, near its sclerotic margin, at a considerable distance on one side of the adhesion, and in such a direction that, when pushed onwards, it crosses at right angles that radius of the lens in which the adhesion is lying (Fig. 2). The needle is pushed onwards into the anterior chamber, and so guided by the operator that its point becomes engaged in the pupillary margin of the iris at the root of the adhesion. The simple contact of the needle point with the iris is sufficient for this, and no attempt must be made to bury the needle in the tissue. By a gentle lever action of the needle point towards the periphery of the iris, the corneal wound being the fulcrum, the adhesion is broken down by being stretched

FIG. 2.



and ruptured, and the needle being slowly withdrawn from the eye, the operation is completed.

The needle I use is depicted in Fig. 1, and its point is rounded off a little, so as not to be acuminate.

There seems to be no reaction of iris or cornea consequent on this slight interference; on the contrary, I have found the dilatation of the pupil always keep the torn ends of the adhesion apart under the use of atropine until absorption had taken place.

The simplicity of the proceeding obviates the necessity of detailing cases, but the following example will show how readily it succeeds where Passavant's method fails:—

Case.—Jas. T., aged 18, admitted into the Aberdeen Hospital on October 25, 1869, with nebulous opacities of both corneæ and synechia posterior iridis on both eyes. The right pupil was nearly totally adherent, the left pupil being fixed only at two points—viz., above and to the outer side. On October 28, 1869, the external adhesion of the left iris was separated by Passavant's method. There was no subsequent reaction, but the adhesion reunited to nearly its former extent, in spite of the assiduous employment of atropine. On November 23, an iridectomy was performed on the right eye with complete results. On December 16 the external adhesion on the left eye was broken down by the operation above described, and on December 21 the upper adhesion was similarly operated on, a round movable pupil being secured, and the boy was dismissed cured on December 27, with orders to return after six weeks to be treated for the haziness of the corneæ.—*Medical Times and Gazette, May 28th,* 1870.

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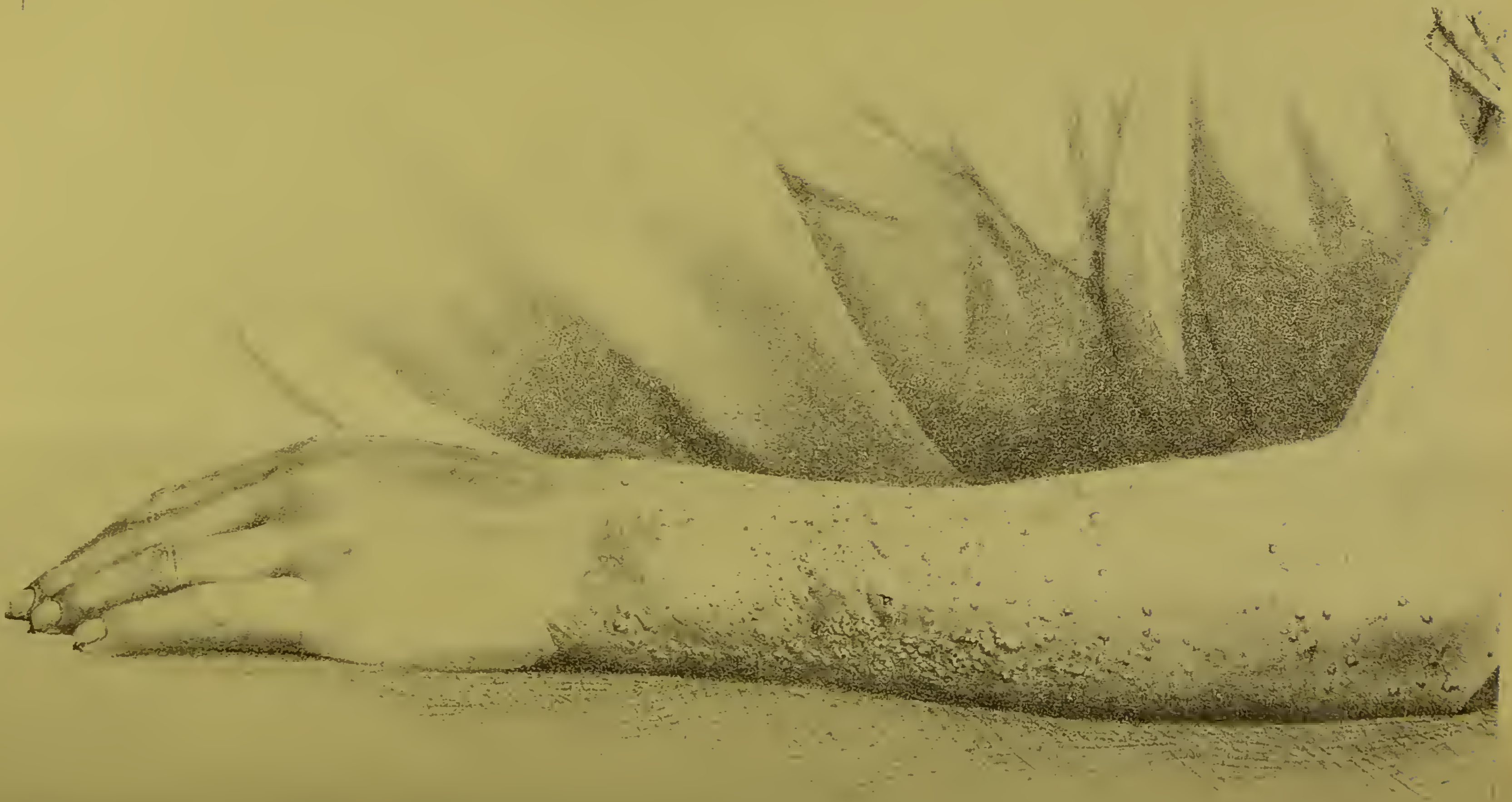
Plate I.



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